5. (amended) A transgenic non-human mammal which has at least one osteoblast cell which contains a recombinant DNA sequence which includes one of the following nucleotide sequences:

a) the nucleotide sequence of SEQ ID NO: 1, or its complement, or any contiguous portion of the nucleotide sequence or complement which is at least 36 nucleotide residues in length;

b) a nucleotide sequence which has at least 80% homology with SEQ ID NO: 1; and

c) any contiguous portion of the nucleotide sequence of (b) which is at least 36 nucleotide residues in length,

and which at least one osteoblast cell is capable of enhanced expression of stretch-activated cation channel relative to such cell without the recombinant DNA sequence.

7. (amended) The mammal of claim 5 wherein the mammal is a murine.

8. (amended) A method of producing a non-human mammal with enhanced expression of stretch-activated cation channel in osteoblasts relative to a wild-type littermate comprising:

a) providing a vector construct containing a transgene encoding a protein having stretch-activated cation channel activity; and

b) incorporating the vector construct into the genome of the non-human mammal such that the non-human mammal has enhanced expression of stretch-activated cation channel in osteoblasts.

10. (amended) A method of producing progeny of a non-human mammal heterozygous for a stretch-activated cation channel transgene comprising:

a) mating a first non-human mammal with a second non-human mammal, wherein the first non-human mammal expresses enhanced levels of stretch-activated cation channel in osteoblasts relative to a wild-type litter mate, and wherein the second non-human mammal expresses normal levels of stretch-activated cation channel in osteoblasts; and

b) selecting progeny obtained from said mating of step a) which are heterozygous for the transgene.